



transforming the *soft side* of your business!



Soft Surroundings

Soft Design Charts & Cheat Sheets Down vs. Feather



Down vs. Feather

Down -What is it?

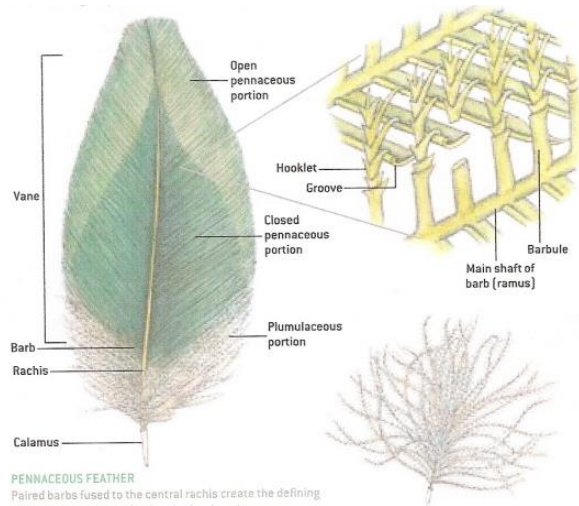
Down is the under feathers of waterfowl. Down lies beneath the protective covering of a bird's feathers on the underbelly or beneath the tail. It grows out like a feather. It is 3 dimensional with a quill point that clusters like a puff ball that is called a plumule. It is soft, light and fluffy with thousands of tiny fibers that radiate from its core. Down clusters are round and spherical as seen on the left. They look like the head of a dandy lion, and depending on the quality of the down, almost the same size. The clusters interlock and form layers trapping warm air in and cold air out. There are two types of down- goose and duck. It provides the insulation that birds need to keep warm, and differs from feathers in that it has no quills.

This natural spherical shape is what gives a down pillow, down comforter or down feather bed its loft. The loft comes from the down cluster constantly wanting to return to its naturally round shape.

Down is the best insulator- it is warm, lightweight- and for the eco-friendly customer, a by-product.

Feathers- What are they?

Feathers, from either geese or ducks are the outer covering of the bird; have quills, are water repellent, and make it possible for the animal to fly, keep warm and stay dry. (so don't wash a feather pillow) . The quills run down the center of a feather and act as an exoskeleton - attaching to the bird's body at the tip of the quill.



PENNACEOUS FEATHER
 Paired barbs fused to the central rachis create the defining vane of a pennaceous feather. In the closed pennaceous portion of the vane, tiny hooklets on one barbule interlock with grooves in the neighboring barbule (*detail and middle micrograph*) to form a tight, coherent surface. In the open pennaceous portion, the barbules do not hook together. Closed pennaceous feathers are essential for avian flight.

PLUMULACEOUS (DOWNY) FEATHER
 A plumulaceous feather has no vane. It is characterized by a rudimentary rachis and a jumbled tuft of barbs with elongated barbules.

Goose vs. Duck

According to the IDFL (International Down and Feather Testing Laboratory), goose down is preferable because the animal is larger and more mature. The clusters are generally larger than duck clusters, and typically come from older, larger birds. As a result, their down tends to produce higher fill resistance, making it more resilient and durable than duck down. Geese only eat grass, which means there are far fewer odor problems associated with goose down when compared to ducks - who eat fish, frogs and algae in addition to grains and grasses.

Quality

The larger the down cluster, the more insulating power it has. Cluster size is determined by age-older is better-size, species, and processing. The priciest down, is eiderdown from King Eider Ducks in Iceland. (Cold climates make better down.) Quality is also determined by color. White is preferred and is more expensive than gray.

	SOFT, COMFORTABLE AND SUPPORTIVE
	HELPS YOUR SKIN TO BREATHE
	USUALLY MEANS GOOSE OR DUCK FEATHERS, GOOSE OR DUCK DOWN, OR A COMBINATION OF THE TWO
	CAN BE UNSUITABLE FOR ALLERGY SUFFERERS
	DOWN A cosy, light choice made with fluffy feathers collected from the breast area of the bird.
	FEATHERS Heavier than down but less expensive, the feathers are larger and more substantial.
	FEATHERS & DOWN Feather and down pillows combine stronger feathers and delicate down.



Checklist for Choosing Down Comforters

___Warmth Level

- Light- warm room/ cool sleeper
- Medium
- Heavy - cool room/ warm sleeper
- Ultra

Ask your client: What's my bedroom temperature?
Do you want to be cool, warm or medium when you sleep?

Temperature of your bedroom:	Type of sleeper you are:			
	Always warm	Normal to warm	Normal to cold	Always cold
over 70°	Blanket Level	Blanket Level	Blanket Level	Blanket Level or Summer Level
65°-70°	Blanket Level	Blanket Level or Summer Level	Summer Level	Summer Level or Level 1
60°-65°	Blanket Level or Summer Level	Summer Level or Level 1	Level 1 or Level 2	Level 2
55°-60°	Summer Level or Level 1	Level 1 or Level 2	Level 2 or Level 3	Level 3
below 55°	Level 1 or Level 2	Level 2 or Level 3	Level 3 or Level 4	Level 4

___Construction

There are two basic constructions:

1. Baffle- a vertical wall of interior fabric sewn to shell so down doesn't shift; can assume potential loft.
2. Sew- thru - here both layers of shell sewn together; usually used for lightweight comforters

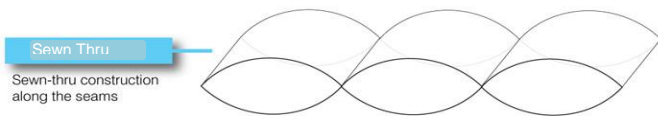


Image is not to scale. For illustrative purposes only



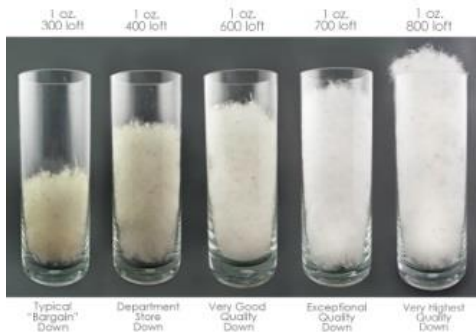
___Stitches

Karo- an open corner pattern allows down to move; good for medium to heavy comforters.

___Cover

Covers used with down should be natural. Cotton or cotton/ silk are the best, because it prevents the down from migrating. Thread counts of fabric covers should be over 200 to help prevent feathers from poking through. Thread count or the amount of ends and picks woven per square inch of cloth. (The higher the count; the smoother the fabric.)

___Fill Power



The rule of thumb is "the higher the fill power the higher the quality."

Fill power is defined by the number of cubic inches an ounce of down takes up. The higher the fill power the better quality the down. Feathers don't have fill power. Standard is 500-550
High Quality is 600-700
Luxury is 700+
Down over 650 is considered exceptional. The higher the fill power the larger the down cluster, the larger the down cluster the higher the quality, the higher the quality the longer it will last and the higher it will loft and the more air it will trap therefore sleeping warm



Down or Feathers for Upholstery?

Lesser quality upholstery typically uses feathers as cushion fill, or a combination of down and feathers.

When it comes to the very finest upholstery, using feathers is problematic for three reasons - all related to the quills. First, they bend and break down over time - and when they do cushions go flat and can be difficult to fluff back into shape. The second is that feathers can be 'noisy' in that when a cushion compresses under weight, the quills rub against each other and make a 'scrunching' sound - which we (and most designers) find undesirable. And finally, feather quills can break through the fabric and poke the person seated.

Because down has no quills, it takes far longer to degrade, often 15-20 years in the cushions of upholstery. It makes no noise when compressed, and will not penetrate either the tightly woven feather ticking used as a liner, or the finish fabric.

Down or Feathers for Soft Goods?

Again down is a luxury fill. It should be the fill of choice for custom pillows. Down is soft & light and can be fluffed back into shape, but down compresses so it doesn't give support. Choose a mix of feather/ down to give the pillow body. The more feathers in the mix; the stiffer, and less expensive the form. When feathers are 'stuffed' into a pillow shell, over time, the quills start to align with each other and tend to lay flat. The effect on your pillow is that it too becomes flat. So to combat this flattening; add down to keep the feathers from compacting and the feather pillow becoming hard. All down products contain some trace of feathers and fiber as the sorting and cleaning process in an inexact science done by hand. This is why the law will not allow anyone to claim "100% down" - check the label. The labeling usually reads 5/95 meaning 5% down and 95% feather or 50/50- 50% down and 50% feather. The most common mixes to the trade are: 10/90 25/75 50/50

DOWN

INSULATION

PROS/CONS

Best warmth-to-weight ratio: supreme warming power, yet weighs next to nothing	Not an unlimited supply, can be expensive
Ultra durable: lasts for years of use if cared for properly	Get it wet – good-bye warmth as it will absorb the moisture and lose its loft
Resilient: scrunch it up, then give it a good shake to fluff it back up	May contain allergens for some people
Great for dry, cold climates	

The Company Store

Tips

- Down puts the least stress on the face fabric. Use for fragile fabrics, and antique textiles.
- If using a stiff fill (5/95) with lightweight fabric- interline to prevent feathers from peeking thru.
- Check with the client to make sure she has no allergies to down/ feather.
- Caution clients not to pull out the feather barb. It makes the hole bigger. Don't vacuum down pillows.

Synthetic

Polyester fiberfill is a common synthetic stuffing. Most are garnetted – actually a piece of filtered, folded batting. It flattens with use, and doesn't fill up pillow corners. The industry standard is Dacron 91 a resilient sheet batting that holds its shape. Comforel is a Dacron cluster fiber that is non allergenic, and down -like with loose curly fibers that fluff up.

Down vs. Synthetics

Down gives approximately 3 times the warmth per ounce compared to synthetics. Also, its ability to loft, or fill the space it occupies is greater, longer lasting, and more uniform. Synthetics mat and lump together while down continually re-lofts and molds itself to the body. Down also has the marvelous ability to breathe and wick away perspiration, so the user doesn't experience the clamminess which often occurs with synthetics.

Enemies of Feather and Down Fill

Three things that destroy feathers and down are:

Compression - Normal use compresses the down. Compression, over time, slowly crushes the all-natural fibers that make up the filaments that radiate from the center of a down cluster.

Moisture - The ultimate enemy of down is moisture. Whether that moisture comes from the down not being properly dried during manufacturing or from the humidity the down or the moisture from improper cleaning.

Oil - The oils from facial creams or your skin will make their way through the pillow shell and be absorbed by the down fill.

Resources

Down Inc.
Cuddledown
American Down
Feathertext